

# Type specimens of Drosophilidae (Diptera) described by Linnaeus, Fallén, Wahlberg and Zetterstedt

by

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## ABSTRACT

Status and condition of the type specimens of 27 nominal species kept in Swedish collections are listed. Lectotypes are designated for *Drosophila alboguttata* Wahlberg, *Drosophila costata* Zetterstedt, *Drosophila fuscimana* Zetterstedt and *Drosophila marginella* Zetterstedt. *Drosophila cinerella* Fallén is synonymized with the ephydrid *Discocerina obscurella* Fallén (NEW SYNONYMY), and *Drosophila laeta* Zetterstedt with *Drosophila phalerata* Meigen (NEW SYNONYMY).

## INTRODUCTION

The genus *Drosophila* was established by FALLÉN (1823) for 12 Swedish species, 11 of them new to science. About 20 years later, ZETTERSTEDT (1840, 1847) described more than 10 new species of *Drosophila* based on flies from Scandinavia. Even though in the meantime some of these species have been transferred to other families, most of the species described by Fallén and Zetterstedt are fundamental to the European drosophilid fauna.

The specimens of Drosophilidae in the old Swedish collections have never been revised except in a few cases (e.g. CAIN *et al.* 1952), but in the years 1954 to 1960 the late E. B. Basden checked more or less all specimens. During this study he numbered the specimens, fixed the type series and labelled many lectotypes. Unfortunately the results

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of this revision have never been published, but Mr Basden entrusted me with his notes, enabling me to designate many lectotypes (BÄCHLI 1982) based on the selections made by him.

For the present revision nearly 500 specimens of the old Swedish collections have been checked. They are supposed to be in the original arrangement in the boxes. Many of them do not have original labels or have colour code labels only. Therefore I decided to consider all extant specimens to be type specimens if there are no arguments against this, e.g. by the labelling, by obvious disagreement in characteristics or by aberrant arrangement in the collection.

In the following list the specimens are marked by Basden's identification number and the following codes: "Fln", "Wahl" and "Boh" for specimens in the Riksmuseum Stockholm and "Ztt" for specimens in the Zoological Museum Lund. For holotypes, lectotypes and syntypes all labels are mentioned, for paralectotypes the data of the labels are abbreviated to the identification code. In the list, the individual labels are separated by strokes (/) and my comments are given in square brackets []. The 27 listed nominal species are represented by 3 holotypes, 21 lectotypes, 60 paralectotypes and 4 syntypes. The content of the old collections seems to be very complete but the type specimens of *Musca cellaris* Linnaeus and the holotype of *Drosophila griseola* Zetterstedt could not be found and those of *Drosophila picta* Zetterstedt and *Drosophila spurca* Zetterstedt are kept in the Zoological Museum Copenhagen (FRYDENBERG 1955). Besides the species described by Fallén and Zetterstedt the type material of a few species described by LINNAEUS (1758, 1767), WAHLBERG (1839) and ROTH in ZETTERSTEDT (1860) is also mentioned.

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#### LIST OF TYPE SPECIMENS

##### *Drosophila albilabris* Roth in Zetterstedt, 1860: 6425

Holotype ♂: Bök [= Bökestad] 21/6 / Type selected by E. B. Basden Jany. 1955 *Drosophila albilabris* Rth. / *Dros. albilabris* Roth ♂ n. sp. [Zett. handw.]/324/ = *Amiota albilabris* (Roth) det E. B. Basden / Ztt 324 *Drosophila albilabris* R. Holotype ♂ G. Bächli det. 1989 / [on separate pin:] pin-mount of abdomen / *Drosophila albilabris* Roth Holotype.

Comments: The present name is *Amiota albilabris* (Roth).

##### *Drosophila alboguttata* Wahlberg, 1839: 22

Lectotype ♂: green diamond [= Östergötland] / pin-mount of abdomen / Wahl 2 *Drosophila alboguttata* W. Lectotype ♂ G. Bächli det. 1989.

10 paralectotypes ♂ ♀: Wahl 1, Wahl 3 - Wahl 9, Ztt 367, Ztt 369.

Comments: LECTOTYPE by present designation. The present name is *Amiota alboguttata* (Wahlberg). In the lectotype specimen the hind tarsal hairs appear somewhat shorter than in other specimens of the type series.

##### *Drosophila approximata* Zetterstedt, 1847: 2557

Lectotype ♀: *D. approximata* ♀ Smoland. / Lectotype of *Drosophila approximata* Ztt Selected by E. B. Basden 1960/96/Ztt 96 *Drosophila approximata* Z. Lectotype ♀ G. Bächli det. 1989. 2 paralectotypes ♀ ♀: Ztt 97, Ztt 98.

Comments: Lectotype designated by BÄCHLI (1982). Type locality according to lectotype: Smolandia. Most characteristics, especially the width of the cheeks, are as in *D. melanogaster*; therefore both species are considered to be conspecific and *D. approximata* Zetterstedt is a synonym of *D. melanogaster* Meigen, as mentioned by BASDEN (1961).

*Musca cellaris* Linnaeus, 1758: 597

Holotype missing in the collections of London (JACKSON 1912) and Uppsala.

Comments: This species was considered by some authors to be a doubtful synonym of *Drosophila funebris* Fabricius. However, being without type specimen, it seems better to leave it as a nomen dubium.

*Drosophila cinerella* Fallén, 1823: 7

Holotype: ♀ / *D. cinerella* ♀ e museo Fallén / 68 / *Discocerina obscurella* Fln. det. Collin 1955 / *Drosophila cinerella* Fallén Holotype ♀ Ztt 68 G. Bächli det. 1989 / [abdomen missing].

Comments: There is no indication that this is not the holotype specimen. It seems best to me to accept Collin's determination. Therefore *D. cinerella* is a junior synonym of the ephydrid *Discocerina obscurella* Fallén, 1813 (NEW SYNONYMY).

*Drosophila congesta* Zetterstedt, 1847: 2558

Holotype: yellow square [=Östergötland] / *D. congesta* ♂ Lärketorp. / Lectotype of *Drosophila congesta* Ztt. Selected by E. B. Basden 1960/99/Ztt 99 *Drosophila congesta* Z. Holotype G. Bächli det. 1989 / [on separate pin:] pin-mount of abdomen [genitalia missing].

Comments: The present name is *Microdrosophila congesta* (Zetterstedt). The holotype specimen is probably a female, but the spermatheca being missing, a definitive decision is not possible.

*Drosophila costata* Zetterstedt, 1840: 776

Lectotype ♂: black square [=Lapland trip 1832] / *D. costata* Umenäs. ♀ ./6/Ztt 6 *Drosophila costata* Z. Lectotype ♂ G. Bächli det. 1989.

14 paralectotypes ♂ ♀: Ztt 4, Ztt 5, Ztt 7, Ztt 70, Ztt 71, Ztt 74, Ztt 187, Ztt 191, Ztt 374.

Comments: LECTOTYPED by present designation. Type locality according to lectotype: Umenäs, Lapland. The present name is *Chymomyza costata* (Zetterstedt).

*Drosophila curvipennis* Fallén, 1823: 4

Lectotype ♂: pin-mount of abdomen / 2 / *Drosophila curvipennis* Fln. ♂ Lectotype Selected by E. B. Basden 1955/369 60/Protostegana furta (L.) ♂ det. Basden 1960 / Fln 2 *Drosophila curvipennis* F. Lectotype ♂ G. Bächli det. 1989 / [covered with mould].

4 paralectotypes ♀ ♀: Fln 1, Fln 3-Fln 5.

Comments: Lectotype designated by BÄCHLI (1982). This is a synonym of *Stegana furta* (Linnaeus).

*Drosophila fenestrarum* Fallén, 1823: 6

Lectotype ♂: 17 / pin-mount of abdomen / *Drosophila fenestrarum* Fln Lectotype ♂ Selected by E. B. Basden 1956 / [on main pin:] Right wing to slide / 3.44 R. M. prep. 3955 / Fln 17 *Drosophila fenestrarum* F. Lectotype ♂ G. Bächli det. 1989/[some legs are missing].

6 paralectotypes ♂ ♀: Fln 16, Fln 19-Fln 23.

Comments: Lectotype designated by BÄCHLI (1982).

*Drosophila flava* Fallén, 1823: 7

Lectotype: blue square / red square / [=Äsperöd/Tranås] *D. flava* ♂. Esper. [=Äsperöd]/163/1976 33/Lectotypus *Drosophila flava* Fallén 1823 Design. by Laštovka & Máca 1978 / *Scaptomyza flava* (Fall.); ♂ P. Laštovka et Jan Máca det. / [only rest of thorax].

1 paralectotype: Ztt 164.

Comments: Lectotype designated by LAŠTOVKA & MÁCA (1978). The present name of this species is *Scaptomyza flava* (Fallén).

*Drosophila flavipennis* Zetterstedt, 1840: 777

Lectotype ♂: black square [=Lapland trip 1832]/*D. flavipennis* ♂. Wilhelm. [=Vilhelmina]/*D. graminum* var. c. Zett. / Lectotype of *Drosophila flavipennis* Ztt. Selected by E. B. Basden 1960/23/Ztt 23 *Drosophila flavipennis* Z. Lectotype ♂ G. Bächli det. 1989 / [somewhat covered with mould] / [on separate pin:] pin-mount of abdomen/Ztt 23.

1 paralectotype ♀: Ztt 24.

Comments: Lectotype designated by BÄCHLI (1982). This is certainly a *Scaptomyza* species, probably conspecific with *Scaptomyza griseola* (Zetterstedt).

*Musca furta* Linnaeus, 1767: 991

Lectotype ♂: *Musca furta* L. Lectotype ♂ G. Bächli det. 1989 / *Stegana furta* L. G. Bächli det. / [on separate label:] furta X / [on separate slide with abdomen and some legs:] *Musca furta* Type Abdomen Legs (left 2nd & 3rd) E. B. Basden 4 Ap. 1960 / [good condition except halteres and some bristles missing].

1 paralectotype: *Musca furta* L. Paralectotype G. Bächli det. 1989 / *Stegana furta* L. G. Bächli det. / [on separate label:] furta?

Comments: Lectotype designated by BÄCHLI (1982). Both specimens are kept in the Thunberg collection of the Zoological Museum Uppsala. The present name of this species is *Stegana furta* (Linnaeus).

*Drosophila fuscimana* Zetterstedt, 1840: 776

Lectotype ♂: black square [=Lapland trip 1832] / *D. fuscimana* ♂ Nordanås. 15 / Ztt 15 *Drosophila fuscimana* Z. Lectotype ♂ G. Bächli det. 1989 / [head missing].

1 paralectotype ♂: Ztt 93.

Comments: LECTOTYPE by present designation. Type locality according to lectotype: Nordanås, Lapland. The present name of this species is *Chymomyza fuscimana* (Zetterstedt).

*Drosophila fuscula* Fallén, 1823: 7

Lectotype: *Drosophila fuscula* ♂/34/54 55 / *D.* (= *Drosophila* EBB) *fuscula* Lectotype det Collin '55 / *Diastata fuscula* Fln det. J. E. Collin 1955.

Comments: Lectotype designated by CHANDLER (1987), kept in the Riksmuseum Stockholm. The present name of this species is *Diastata fuscula* (Fallén).

*Drosophila glabra* Fallén, 1823: 8

Lectotype ♂: *D. glabra* ♂/59 55/54/*D. glabra* Fln. Lectotype det Collin '55 / *Camilla glabra* Fln ♂ det. J. E. Collin 1955 / Fln 54 *Drosophila glabra* F. Lectotype ♂ G. Bächli det. 1989 / [somewhat covered with mould].

5 paralectotypes ♂ ♀: Fln 55, Fln 56, Ztt 100, Ztt 105, Ztt 205.

Comments: Lectotype designated by COLLIN (1956). The present name of this species is *Camilla glabra* (Fallén).

*Drosophila graminum* Fallén, 1823: 8

Lectotype ♀: *D. graminum* ♂ / 108 54 / Lectotype in accord. with Hardy 1849 [J. E. Collin's label]/57 55/39/Scapt. *graminum* (Fln) ♀ det Basden 1956 Lectotype of *Drosophila graminum* Fln. / Fln 39 *Drosophila graminum* F. Lectotype ♀ G. Bächli det. 1989 / [head missing].

1 paralectotype ♀: Fln 44.

Comments: Lectotype designated by BÄCHLI (1982). The present name of this species is *Scaptomyza graminum* (Fallén).

*Drosophila griseola* Zetterstedt, 1847: 2562

Holotype missing [only label on short pin]: *D. griseola* Dalec. [= Dalecarlia] Boh. [= Boheman] ♀.

Comments: There are clear concepts of *Scaptomyza griseola* as being a species distinct from *S. graminum* (e.g. HACKMAN 1955, 1959). For the moment it seems best to me to accept this view, in spite of lack of type material.

*Drosophila laeta* Zetterstedt, 1847: 2555 (as var. b. *laeta* of *Drosophila transversa*)

Lectotype ♀: red square [=Lund and its neighbourhood] / var. b latea ♀ Paradislyckan / Lectotype of *Drosophila laeta* Zett Selected by E. B. Basden 1960/89/Ztt 89 *Drosophila laeta* Z. Lectotype ♀ G. Bächli det. 1989.

1 paralectotype ♀: Ztt 90.

Comments: Lectotype designated by BÄCHLI (1982). Type locality according to lectotype: Paradislyckan, Lund. Both specimens are teneral females. According to the shape of the oviscapae *D. laeta* is conspecific with *D. phalerata* Meigen (NEW SYNONYMY).

*Drosophila marginella* Zetterstedt, 1840: 777

Lectotype ♂: black square [=Lapland trip 1832] / *Dros. marginella* Ins. Lapp. ♂. *Diastata costata* Zett. Stensele. / 313 / *Drosophila marginella* Ztt Lectotype Selected by E. B. Basden 1956 / *Diastata costata* Mg. det J. E. Collin '56 / Ztt 313 *Drosophila marginella* Z. Lectotype ♂ G. Bächli det. 1989.

1 paralectotype ♀: Ztt 314.

Comments: LECTOTYPE by present designation. Type locality according to lectotype: Stensele, Lapland. This is a synonym of *Diastata fuscula* (Fallén).

*Drosophila nigriventris* Zetterstedt, 1847: 2557

Lectotype ♂: *D. nigriventris* ♂ Smol. [=Smolandia] / Lectotype of *nigriventris* Ztt Selected by E. B. Basden 1960/94/Ztt 94 *Drosophila nigriventris* Z. Lectotype ♂ G. Bächli det. 1989 / [on separate pin:] pin-mount of abdomen / [head, body & one leg to card-mount].

1 paralectotype ♀: Ztt 95.

Comments: Lectotype designated by BÄCHLI (1982). *Drosophila nigriventris* being pre-occupied, the valid name of this species is *Microdrosophila zetterstedti* Wheeler. The abdomen of the holotype specimen is uniformly black, but the epandrium is yellow.

*Drosophila obscura* Fallén, 1823: 6

Lectotype ♂: *D. obscura* ♀ / 137 51 / lfr. Ent. Avd. microscop. prep., Specimen No. 31 / Right wing to slide / *Dros. obscura* Lectotype Selected by E. B. Basden 1956 (v. Cain *et al.* 1952) / 3: 44 R. M. prep. 3958 60 / Fln 31 *Drosophila obscura* F. Lectotype ♂ G. Bächli det 1989 / [covered with mould; abdomen & front left leg to slides (Cain)].

2 paralectotypes ♂♂: Fln 29, Ztt 65.

Comments: Lectotype designated by BÄCHLI (1982). The status of this species was discussed by CAIN *et al.* (1952).

*Drosophila pallida* Zetterstedt, 1847: 2571

Lectotype: blue square [= Äsperöd/Mellby] / *D. pallida* Z. graminum Fall var. d. ♂. Esp. [= Äsperöd] / Lectotype of *Drosophila pallida* Ztt. Selected by E. B. Basden 1960 / 167 / Ztt 167 *Drosophila pallida* Z. Lectotype G. Bächli det. 1989 / [head, abdomen & some legs missing].

2 paralectotypes: Ztt 168, Ztt 273.

Comments: Lectotype designated by BÄCHLI (1982). The present name of this species is *Scaptomyza pallida* (Zetterstedt). The poor condition of the lectotype does not allow a complete description. However, there is no doubt about the identity of this species.

*Drosophila sordida* Zetterstedt, 1840: 777

Lectotype ♂: black square [= Lapland trip 1832] / *D. sordida* ♂. Wilhelmina. / *D. graminum* var. b. Zett. / Lectotype of *Drosophila sordida* Zett. Selected by E. B. Basden 1960/21/Ztt 21 *Drosophila sordida* Z. Lectotype ♂ G. Bächli det. 1989 / [on separate pin:] pin-mount of abdomen / Ztt 21.

1 paralectotype ♀: Ztt 22.

Comments: Lectotype designated by BÄCHLI (1982). Type locality according to lectotype: Vilhelmina, Lapland. This is clearly a *Scaptomyza* species, probably conspecific with *Scaptomyza teinoptera* Hackman.

*Drosophila transversa* Fallén, 1823: 6

Lectotype ♂: pin-mount of abdomen / 28 / *Drosophila transversa* Fln Lectotype ♂ Selected by E. B. Basden 1956 / Right wing to slide E. B. Basden '56/3: 44 R. M. prep. 3957 / Fln 28 *Drosophila transversa* F. Lectotype ♂ G. Bächli det. 1989 / [complete but somewhat covered with mould].

4 paralectotypes ♀ ♀: Fln 24-Fln 27.

Comments: Lectotype designated by BÄCHLI (1982).

*Drosophila tristis* Fallén, 1823: 7

Lectotype ♂: blue square [= Äsperöd/Mellby] / 92 / *D. tristis*. ♀. Esp. [= Äsperöd] Mus. Fall. / pin-mount of abdomen [bad condition] / *Dros. tristis* Fln Lectotype Selected 1956 by E. B. Basden (v. Cain *et al.* 1952) / Ztt 92 *Drosophila tristis* F. Lectotype ♂ G. Bächli det. 1989 / [antennae damaged].

Comments: Lectotype designated by BASDEN (1958) who discussed the identity of this species.

*Geomyza unipunctum* Zetterstedt, 1847: 2533

3 syntypes ♂ ♂: Dlc. alp. [= Dalecarlia alpes] / Bhn [= Boheman] / *Geomyza unipunctum* Z. Syntype ♂ G. Bächli det. 1989 / *Scaptomyza unipunctum* Z. G. Bächli det.

1 syntype ♂: light green square [= Jämtland and Norway trip 1840] / [on main pin:] G. Unipunctum ♂ Helsingia / Arbrå Helsingland 24/8 40./268/Ztt 362 *Geomyza unipunctum* Z. Syntype ♂ G. Bächli det. 1989 / *Scaptomyza unipunctum* Z. G. Bächli det. / [somewhat covered with mould].

Comments: The present name of this species is *Scaptomyza unipunctum* (Zetterstedt).

*Drosophila variegata* Fallén, 1823: 5

Lectotype ♀: 8 / *Drosophila variegata* Fln Lectotype Selected by E. B. Basden 1955 / *Phortica variegata* (Fln) ♀ det. Basden '55/375 60/51 74/pin-mount of abdomen [Máca] / Fln 8 *Drosophila variegata* F. Lectotype ♀ G. Bächli det. 1989 / [head missing].

2 paralectotypes ♀ ♀: Fln 6, Fln 7.

Comments: Lectotype designated by MÁCA (1977). The present name of this species is *Amiota variegata* (Fallén).

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